



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/541,733	10/17/2005	Yukie Mori	124684	3453
25944 7590 02/04/2009 OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850				
EXAMINER				
BAISA, JOSE LITO SASIS				
ART UNIT		PAPER NUMBER		
2832				
MAIL DATE		DELIVERY MODE		
02/04/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/541,733

Applicant(s)

MORI ET AL.

Examiner

JOSELITO BAISA

Art Unit

2832

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 November 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5, 10-12, 21, 22, 24-26 and 28-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 10-12, 21, 22, 24-26 and 28-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 July 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Final Drawing Review (PTO-849)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hinokuma et al. [6495290] in view of Mitsumune [JP2001085203].

Regarding claims 1 and 10, Hinokuma discloses a electric conductor consists a synthetic carbonaceous material (fullerenes derivative) fullerenes generated in the preparation process from which at least a part of the fullerenes is removed [Abstract].

Hinokuma discloses the instant claimed invention discussed above except for the fullerenes concentration is 0.5 ppm to 10 mass %.

Mitsumune discloses an electrode couple, a conductive member comprising a resin including an electric conductor, wherein the electric conductor includes fullerenes; fullerenes concentration is 0.5 ppm to 10 mass %, which is inclusive in 0.01 to 100 pts. wt.[Abstract].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use fullerenes concentration is 0.5 ppm to 10 mass % as taught by Mitsumune to the PTC of Hinokuma.

The motivation would have been to minimize physical property degradation of conductive member by adding fullerene [Paragraph 17].

Regarding claims 2 and 11, Hinokuma discloses the synthetic a carbonaceous material including the fullerenes is generated via a predetermined arc discharging method or a predetermined combustion method [Col. 5, Lines 10-18].

Regarding claims 3 and 12, Mitsumune in view of Hinokuma disclose the preparation process of fullerene involving oxygen and hydrogen atom except for the claimed conductor includes oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass%. It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the oxygen and hydrogen content since applicant has not disclosed that a oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass% solves any stated problem or is for any particular purpose and it appears that the invention of Mitsumune in view of Hinokuma would perform equally well with the Applicant's invention.

Regarding claims 4 and 5, Mitsumune discloses a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor are piled up; wherein the electric conductor is dispersed in the resin [Paragraph 10-12].

Claims 21, 22, 24, 29 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumune [JP2001085203] in view of Shirai et al. [20040048127A1].

Regarding claims 21, 24 and 29, Mitsumune discloses resin including an electric conductor (electrode and conductive member) includes mainly at least a compound having

carbon cluster (C_{60}) [Paragraph 9]. Carbon cluster (C_{60}) has a 6:5 bond (5-membered ring and 6-membered ring), wherein the electric conductor is dispersed in the resin [Paragraph 10-12].

Mitsumune further discloses a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor are piled up.

Mitsumune discloses the instant claimed invention discussed above except for the carbon cluster was mentioned to have at least one 5-membered ring, at least one 6-membered ring and has an open end.

Shirai discloses carbon clusters that are by-product in the fullerene manufacturing process employing arc discharge has often open end structure [Page 4, Paragraph 55].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use carbon cluster that have at least one 5-membered ring, at least one 6-membered ring and has an open end as taught by Shirai to the structure of Mitsumune.

The motivation would have been this characteristic provides higher reactivity of the electrochemical device [Page 4, Paragraph 55].

Regarding claims 22 and 30, Mitsumune in view of Shirai disclose the preparation process of fullerene involving oxygen and hydrogen atom except for the claimed conductor includes oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass%.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the oxygen and hydrogen content since applicant has not disclosed that a oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass% solves any

stated problem or is for any particular purpose and it appears that the invention of Mitsumune in view of Shirai would perform equally well with the Applicant's invention.

Claims 25, 26, 28, 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mitsumune [JP2001085203] in view of Hinokuma et al. [6495290].

Regarding claims 25, 28 and 31, Mitsumune discloses resin including an electric conductor (electrode and conductive member) includes mainly at least a compound having carbon cluster, wherein the electric conductor is dispersed in the resin [Paragraph 9] and [Paragraph 10-12].

Mitsumune discloses the instant claimed invention discussed above except for the carbonaceous compound having a non-peak distribution due to its amorphous structure in a region where 2θ is 30 degree or less in an X-ray diffraction spectrum.

Hinokuma discloses carbon derivative that has amorphous structure whose impedance behavior is similar to the carbon compound measured in an X-ray diffraction spectrum [Col. 26, Lines 5-27].

It would have been obvious to one having ordinary skill in the art at the time of the invention to use the carbon compound taught by Hinokuma to the structure of Mitsumune.

The motivation would have been for the electrical characteristic (impedance and conductivity) of the carbonaceous compound cluster be used in electrochemical devices [Col. 26, Lines 5-16].

Regarding claims 26 and 32, Mitsumune in view of Hinokuma disclose the preparation process of fullerene involving oxygen and hydrogen atom except for the claimed conductor includes oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass%.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the oxygen and hydrogen content since applicant has not disclosed that a oxygen atoms of 0.5 to 30 mass% and hydrogen atoms of 0.05 to 1 mass% solves any stated problem or is for any particular purpose and it appears that the invention of Mitsumune in view of Hinokuma would perform equally well with the Applicant's invention.

Response to Argument

Applicant's amendments with respect to claims 1-5, 10-12, 21, 22, 24-26 and 28-32 have been considered but are moot in view of the new ground(s) of rejection.

Applicant has amended claim 1 to recite an electric conductor that consist a residual material of a synthetic carbonaceous material including fullerenes generated in a preparation process from which at least a part of the fullerenes is removed.

Hinokuma discloses a synthetic carbonaceous material (fullerenes derivative) fullerenes generated in the preparation process from which at least a part of the fullerenes is removed. Hinokuma discloses using fullerene derivative is a residual of a synthetic carbonaceous material used in conductive member.

Applicant argues that Mitsumune does not teach fullerenes concentration is 0.5 ppm to 10 mass % .

Mitsumune discloses fullerenes concentration is 0.5 ppm to 10 mass %, which is inclusive of the required 0.01 to 100 pts. Wt. [Abstract].

Applicant also amended claim 21, 25, 29 and 31 to recite "...a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor are piled up..."

Mitsumune further discloses a plurality of conductor particles having resin particles formed from the resin and a conductive layer formed on the surface of the resin particles and formed from the electric conductor piled up.

The examiner apologizes for indicating the rejection of claims 25 and 31 to be about Shirai instead of Hinokuma. The teaching of the prior art on [Col. 26, Lines 5-27] is of Hinokuma.

Hinokuma teaches the main component of the carbon powder obtained by arc discharge was carbon clusters not having closed structure, but having at least part of which has open ends (amorphous structure) similar to graphite structure. This is the characteristic of the amorphous structure disclosed by the Applicant in Paragraph 93, of the Specification.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a). A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the

mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joselito Baisa whose telephone number is (571) 272-7132. The examiner can normally be reached on M-F 5:30 am to 2:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad can be reached on (571) 272-1990. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Application/Control Number: 10/541,733
Art Unit: 2832

Page 9

Art Unit 2832

/J. B./
Examiner, Art Unit 2832